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TITLE: Electronic Behavioral Health "Health-E"

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MidTerm Overall Evaluation Report

PROPOSAL: 2000000141
TITLE: Electronic Behavioral Health "Health-E"

ACCOMPLISHMENTS

This project has progressed ahead of expectations for most components and has successfully responded to meet real world operational needs. Evolving external challenges, elaborated on below, have resulted in a reprioritization of project deliverables and a focus on support services that can be provided without Internet connectivity. This has not been to the exclusion of Internet based health care services, rather as an additional important focus. Thus, at this point the project is a two pronged effort. One major thrust remains development of Internet behavioral health services. The other major effort is focused on meeting behavioral health needs off-line. These are mutually supporting foci which have added to project complexity.

This project remains under the direction of the original project PI. We are utilizing a broad spectrum of behavioral health providers to assist with content development and project deliverable prioritization. The providers involved in the various project components overlap in their responsibilities and interests and include both a local group at Ft Lewis and an AMEDD wide group that includes the senior leadership of the behavioral health specialties. The Internet based development is focused on standardization of content, functionality, and cross platform compatibility as we explore the potential for Army Knowledge Online (AKO) and TricareOnline integration. Specialty representatives from the Psychology, Psychiatry, Social Work and Substance Abuse programs have been recruited and engaged in active development within their areas. Subspecialties within each department have also been involved with efforts directed to leverage the areas with greatest potential for development. Within the Behavioral Health Clinic this has included enabling clinic forms, materials, and briefings for the Internet to support soldiers and commanders on Ft Lewis. The Wellness program has modified significant portions of their program for downloading, and delivery through CDs with the first sample CDs having been produced. The development cuts across the Behavioral Health Science Service Line at MAMC and into the Ft Lewis activities particularly within the Suicide Prevention Program which we are supporting through Internet enabling of their programs and briefings.

With a multidisciplinary approach, the research team has identified factors critical to the success of a useful, comprehensive electronic behavioral health clinic. From this we have prioritized needs and initiated development of project components, elaborated on below, which include outcome measure development, wireless deployment integration, development of a "Disaster Response Tool-Kit" with the VA, efforts to integrate cognitive testing, and development of a deployable electronic behavioral health record. These efforts have demonstrated their viability and are evolving, with the support of the senior behavioral health leadership, to an integrated enterprise solution.

PI's Accomplishment Evaluation: : [illegible]

PROBLEMS

During the tenure of this project numerous changes have occurred that directly and indirectly impact upon its delivery. Formalization of the DITSCAP and SSAA requirements has been implemented. DOD and other websites have been identified as increased targets of attack resulting in multiple new security processes and tightening of existing processes. The 9-11 events have had both a direct and indirect influence on this project. Directly this and other terrorist activities have resulted in increased network and Internet downtime, increased limitations on flexibility of implementation, and website configuration difficulties as patches and new policies are implemented and the "bugs" are worked out. Indirectly this has resulted in personnel distraction and delays in response to requests for support to rapidly evolving requirements. These requirements have taxed our MAMC web personnel and challenged their support abilities. These processes have impacted the delivery of Internet based services to challenge the targeted model of interactive Internet services from our local site. In particular, web content is now all being cached at Ft Huachuca preventing efficient interactive communication such as bulletin boards. This project continues to be challenged by long delays in order processing and installation, particularly due to our bringing in new technologies and requirements that MAMC personnel are not familiar with. These external factors have not stopped efforts to provide Internet based services but have impacted on what is feasible to deliver within present constraints and led to greater exploration of services beyond MAMC.

Implementation of this research prototype is not expected to meet difficulties in implementation as MEDCOM Reg 25-1 has been distributed in final draft form excluding research projects from the complexities of many formal IM acquisition process. Should this research prototype be subjected to the DITSCAP process it is unlikely that the project could successfully deploy locally within the project timeframe.

The Interim Brigades, one of the key target populations for this project, continue to undergo revisions of policy, hardware, and equipment. They had been in a relatively inactive status awaiting delivery of their primary vehicle. However, this status has changed and they are now attempting to make up for previous downtime making their active participation less viable. The second Interim Brigade, however, is now "standing-up" and may better meet project requirements. Associated with the brigades, the MC4 Project Team, has deployed initial hardware. They are resistant to utilizing their hardware for other software and providers are resistant to having multiple similar hardware devices they have to be responsible for. We are attempting to solve this through the efforts to have the electronic record become an official enterprise system which will have formal approved requirements for MC4 and TMIP integration.

Finally, the absence of an approved AMEDD wireless standard has impacted upon the ability to design and fully consider implementation with a wireless device.

PI's Problem Area Evaluation: :

LIFE-CYCLE

The second half of the project will continue with the prototyping of the electronic record. We will be implementing the FDR-BH in the Behavioral Health Clinic at Madigan Army Medical Center and with the 3BDE Mental Health Officer. We will utilize the PIC to avoid system interconnectivity issues. Once in place, clinic staff will be trained to use the software and the research protocol will begin. After the software is successfully installed for local functioning, we will focus on implementing the program on the Internet. Simultaneous to this research effort we are moving to integrate the features and functionality into an enterprise system. Army Behavioral Health is establishing an IPT to develop and field an enterprise solution. This effort will work to modify an existing ORD and integrate fielding with a USAMISSA program to optimize development cycle and field the initial product, as this project continues to prototype and support newly evolving requirements. This IPT will work in coordination with the Health Policy and Services Research Directorate to integrate with the appropriate general officer integration committees.

Efforts will continue to integrate the products with TMIP and MC4 and push requirements definition to CHCS-II for implementation within their Block 3 development cycle. The project PI has the Army lead for CHCS-II behavioral health requirements definition and validation.

Additionally, we have initiated several new, related efforts. We have initiated development of a "Disaster Response Toolkit" to support providers responding to a range of situations. This is being worked on as a collaborative project with the VA National Centers for PTSD. The project is continuing to explore wireless deployment to support field access on deployment. While controversial, due to standards approval decisions and security challenges, this project continues to push forward in this area. We have initiated the dialogue and processes necessary to integrate with the Army's MC4 hardware both with the local Ft Lewis MC4 project personnel and with the MC4 PM and TMIP PM. We continue with efforts to integrate cognitive testing into the overall system and to establish a mechanism within this program to support ongoing behavioral health monitoring and surveillance through deployment surveillance measures and development toward a behavioral health preventive maintenance checks and services model (BH-PMCS).

We have focused our research protocol on user acceptance and formal user evaluation of the electronic record. This protocol has MAMC IRB approval and is awaiting final MRMC approval.

PI's Life-Cycle Evaluation: :

DELIVERABLES

Evolving external challenges have resulted in a reprioritization of project deliverables and a focus on support services that can be provided without Internet connectivity. This has not been to the exclusion of Internet based health care services, rather as an additional important focus. Thus, at this point, the project is a two-pronged effort. One major thrust remains development of Internet behavioral health services. The other major effort is focused on meeting behavioral health needs off-line. These are mutually supporting foci but have added to project complexity.

Development of an integrated, Internet enabled outcome measure for behavioral health - This measure, the Symptom Checklist and Outcome Rating Scale (SCORS), has been piloted and initial normative data collection and cross-validation studies are underway. The interest in this government owned measure has been such that additional cross validation studies will be conducted during the second half of this project with Eisenhower Army Medical Center, Walter Reed Army Medical Center, and Tripler Army Medical Center. This measure will also be integrated into the enterprise record system elaborated on below.

Development of a deployable mental health computer-based patient record - The project team identified this as a key component of the project. The team documented provider needs, analyzed JACHO requirements, and developed initial functional requirements. A prototype complete computer-based mental health record has been developed, with the assistance of TATRC, building on the Field Deployable Record (FDR). This record system prototype is undergoing programming in coordination with TATRC and is being fielded with rapid development prototype support.

The FDR was used as the development platform for the computer-based mental health record for several reasons. First, the FDR is built on the Java platform and utilizes XML technologies, which allows for platform independent and Internet-optimized integration. Second, the FDR integrates with the Personal Information Carrier (PIC). The PIC supports continuity of care across behavioral health organizations and between garrison and deployment. The PIC also obviates the needs for Internet connectivity and the project development challenges associated with such. This has been particularly important with the evolving Internet security threats.

This electronic record system prototype has successfully proceeded far beyond what would be reasonably expected within this project timeframe. While still in its alpha version it has been deployed to Operation Bright Star to evaluate its ability to support behavioral health on a deployment. It has been tasked to support the behavioral health response to Operation Noble Eagle and has the subsequent Operation Solace. It has been tasked to support Operation Enduring Freedom although the ultimate deployment may have been interrupted by J6 concerns over limited technology support in theater and the last minute nature of the MEDCOM request. This record system has also received the interest of the Army Combat Stress Control community, which is looking to ultimately use it to support their needs.

Based on the clear need this system meets we have developed, with the assistance of TATRC, an Integrated Product Team (IPT) recommendation and Charter for development of this as an integrated AMEDD behavioral health system. The AMEDD behavioral health leadership has endorsed this concept and is proceeding with this plan. To best leverage extant behavioral health investment we will attempt to work with existing ORD to modify this to meet our needs. We are also exploring the ability to integrate this system with other Internet enabled mental health initiatives, including the TricareOnline/E-Health Portal and AKO. An initial MOA is under development with AKO to explore hosting and security support.

PI's Deliverables Evaluation: : Deliverable is on schedule per Proposal

Expenditures

Element of Resource (EOR)	1ST Quarter Oct 1 - Dec 31	2nd Quarter Jan 1 - Mar 31
Travel 2100	$0.00	$0.00
Shipping 2200	$0.00	$0.00
Rent & Communications 2200	$0.00	$0.00
Contract for Services 2500	$93,625.00	$0.00
Supplies 2600	$0.00	$0.00
Equipment 3100	$0.00	$4,000.00

Financial Narrative:

The project was funded at a level of $200,000. This was reduced from the requested $438,000. Funds were efficiently transferred to MAMC via MIPR and allocated to a unique APC at MAMC. Obligations and accounting have been managed by the PI with the assistance of Departmental and project personnel. Project rescoping was conducted to maximize the value of project delivery. The current budget estimates are as follows:

Project Mgmt/Clinical Offset: 40,000 Project Assistant/Programming:117,250 Equipment: 21,000 Software: 9,000 Travel/Implementation: 13,000

To date, funds spent include: Research Assistant: 53,625 Project Mgmt/Clinical Offset: 40,000 Software: 4,000

Fund expenditure is generally in line with the revised estimates as submitted in response to the budget decrement. Project Assistant/Programming resources will remain over two full years.

This system has potential applicability across the DOD. One method to accomplish this is to utilize the TricareOnline.com system. This has been proposes as an FY02 project. That project would provide a better estimate of the costs associated with a broad based fielding and enterprise integration.

PI's Financial Evaluation: : Deliverable is on schedule per Proposal

* END OF REPORT *